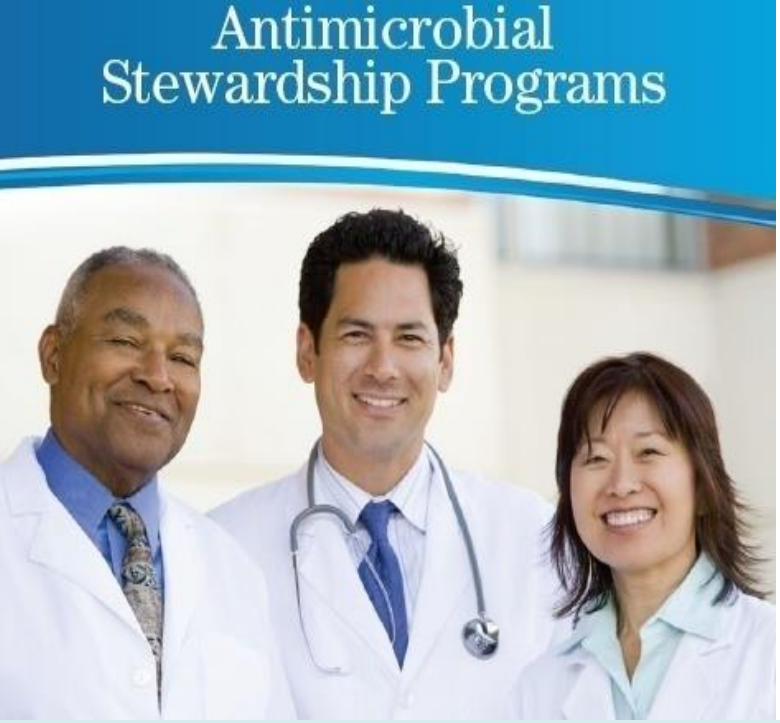


# Antimicrobial Stewardship:

## Arizona Partnerships Working to Improve the Use of Antimicrobials in the Hospital and Community

## Part 13

**"Antibacterials – indeed, anti-infectives as a whole – are unique in that misuse of these agents can have a negative effect on society at large. Misuse of antibacterials has led to the development of bacterial resistance, whereas misuse of a cardiovascular drug harms only the one patient, not causing a societal consequence."**

**- Glenn Tillotson; Clin Infect Dis. 2010;51:752**

**"…we hold closely the principles that antibiotics are a gift to us from prior generations and that we have a moral obligation to ensure that this global treasure is available for our children and future generations."**

**- David Gilbert, et al (and the Infectious Diseases Society of America). Clin Infect Dis. 2010;51:754-5**

# A Note To Our Readers and Slide Presenters

The objectives of the Subcommittee on Antimicrobial Stewardship Programs are directed at education, presentation, and identification of resources for clinicians to create toolkits of strategies that will assist clinicians with understanding, implementing, measuring, and maintaining antimicrobial stewardship programs.

The slide compendium was developed by the Subcommittee on Antimicrobial Stewardship Programs (ASP) of the Arizona Healthcare-Associated Infection (HAI) Advisory Committee in 2012-2013.

ASP is a multidisciplinary committee representing various healthcare disciplines working to define and provide guidance for establishing and maintaining an antimicrobial stewardship programs within acute care and long-term care institutions and in the community.

Their work was guided by the best available evidence at the time although the subject matter encompassed thousands of references. Accordingly, the Subcommittee selectively used examples from the published literature to provide guidance and evidenced-based criteria regarding antimicrobial stewardship. The slide compendium reflects consensus on criteria which the HAI Advisory Committee deems to represent prudent practice.

# Disclaimers

All scientific and technical material included in the slide compendium applied rigorous scientific standards and peer review by the Subcommittee on Antimicrobial Stewardship Programs to ensure the accuracy and reliability of the data. The Subcommittee reviewed hundreds of published studies for the purposes of defining antimicrobial stewardship for Arizonan clinicians. The Arizona Department of Health Services (ADHS) and members of its subcommittees assume no responsibility for the opinions and interpretations of the data from published studies selected for inclusion in the slide compendium.

ADHS routinely seeks the input of highly qualified peer reviewers on the propriety, accuracy, completeness, and quality (including objectivity, utility, and integrity) of its materials. Although the specific application of peer review throughout the scientific process may vary, the overall goal is to obtain an objective evaluation of scientific information from its fellow scientists, consultants, and Committees.

Please credit ADHS for development of its slides and other tools. Please provide a link to the ADHS website when these material are used.

# Introduction to Slide Section



- **Preface:**

  The perspectives of the ASP pharmacist have been discussed in previous slide parts. However, it is valuable to consider perspectives and needs of others in the ASP – hospital administrator and other "C" suite personnel such as the CMO, pharmacy director, and the ASP physician. The obvious recipient of ASP activities is the patient. The patients' perspectives, as consumers of healthcare, must be recognized and integrated into the focus of ASP activities – the well-being of patients.

- **Content:**

  7 slides; 2 supplemental slides

- **Suggestions for Presentation:**

  This slide section is best used in conjunction with "Barriers and Challenges", "Nuts and Bolts", and "Making the Case". Understanding the needs of other members of the ASP will be valuable in structuring activities and setting expectations and timelines.

- **Comments:**

  Slides could be added to this slide section appropriate to your audience which addresses perspectives of healthcare workers in epidemiology, infection prevention, microbiology, environmental services, employee health, and IT.

# ANTIMICROBIAL STEWARDSHIP: PERSPECTIVES TO CONSIDER

# Expectations of the Patient

- Consumers consider HAIs and bacterial resistance unacceptable from a societal and personal perspective
  - Sources of litigation have been published
  - Patient dissatisfaction on hospital surveys
  - Patients beginning to “shop for the cleaner hospital”
- Antibiotic resistant infections are more difficult to manage clinically[1]
  - Therapy may include long-term IV antibiotics
- Continued patient exposure to broad-spectrum antibiotics guarantees one consequence – bacterial resistance
  - Bacterial resistance has implications for the single patient (as source of new MDROs) and downstream effects (patients in nearby beds, future patients, and HCWs)[2]
- Bacterial resistance, and HAIs, are not the “cost of doing business”

1 Dellit T, et al. *Clin Infect Dis* 2007;44:159-177.
2 WHO Global Strategy for Containment of Antimicrobial Resistance; WHO/CDS/CSR/DRS/2001.2, 2001)

# Expectations of the Hospital Administrator

- Effective antimicrobial stewardship programs are financially self-supporting[1]
- Comprehensive programs have consistently demonstrated a decrease in antimicrobial use (22% to 36%), with annual savings of $200,000 to $900,000 in both larger academic hospitals and smaller community hospitals[1]
- Additional financial advantages affecting total hospital costs and quality may be expected, such as improved safety of antibiotic use, lower HAI rates, and shorter length-of-stay[1]
- Dozens of different programs have been published
  - Small and large hospitals
  - Community and academic medical centers
  - Variety of strategies
- Administrative (hospital and medical department) support is mandatory to establish the infrastructure to measure antimicrobial use and to track use on an ongoing basis, and to determine authority, compensation, and expected outcomes for the program[1]

1 Dellit T, et al. *Clin Infect Dis* 2007;44:159-177.

# Expectations of the Pharmacy Director

- Change in staffing is frequently required to initiate an ASP[1], and may include a request for hiring additional staff
- Assessment of infectious diseases knowledge may be required if the ASP functions are to be shared amongst the Pharmacy staff
  - Recommendations for training and certification for pharmacists practicing infectious diseases pharmacotherapy recently published[2]
- Accountability measures need to be developed for “ID Pharmacist” functions
- Expectations on reductions in direct antibiotic purchases need to be established, but should conform to the phase-in timeline of the ASP program
- Cost reductions in antibiotic spend will eventually achieve a plateau, and may be affected by market entry of new agents
  - However, trend lines can partly justify the anticipated antibiotic costs per year in the absence of an ASP
- National Patient Safety Goals (NPSGs) for 2009-2010 phase in several antibiotic stewardship activities which will be mandated, measurable, and/or documented in 2010[3]


1 Dellit T, et al. *Clin Infect Dis* 2007;44:159-177.
2 Ernst E et al. *Pharmacother* 2009;29(4):482-8.
3 Accessible at: http://www.jointcommission.org/PatientSafety/NationalPatientSafetyGoals/09_hap_npsgs.htm

# Expectations of the Chief Medical Officer

- The CMO serves as a champion for the program and supports the ASP philosophy to the medical staff [1]
- Intervention with specific prescribers, P&T Committee, and Med Exec Committee, may be necessary for the success of the program and as issues arise between medical staff and Pharmacy
- The day-to-day role and compensation of the ID physician partaking in ASP
- The CMO should discuss how antibiotic stewardship practices can be translated into accreditation standards within the institution
  - Daily documentation of the antibiotic plan can be used to quantify accountability, and can be easily performed by retrospective or prospective chart review
  - Antibiotic report cards have been discussed as a means of prescriber profiling
  - Assessing the role of evidence-based medicine in clinical pathway and guidelines development

1 Dellit T, et al. *Clin Infect Dis* 2007;44:159-177.

# Expectations of the ASP Physician

- Business planning and presentations to “C” suite personnel:  justification and sustaining the ASP
- Compensation for time out of office, loss of revenue, and stress on partners
- Expectations from Pharmacy:  clinical expertise, consistent program hours, ability of pharmacists to accurately and appropriately interface with physicians
- Responsibility for other oversight:  infection prevention/epidemiology, microbiology, ASP educational programs, P&T Committee, CMO, etc
- Defining their authoritative role as core member of the ASP
- Perceptions by medical staff
  - Balancing consults with informal review of antibiotic prescribing
  - Potential conflicts of interest
- Need to serve as role models for antibiotic use

McQuillen D et al. Clin Infect Dis. 2008;47:1051-63.

# ADDITIONAL SLIDES

# Understand Viewpoints of Shareholders: Appreciate Diversity of Viewpoints and Concerns

| Consumer of Healthcare | Administrator | Pharmacy Director | Chief Medical Officer | Infectious Diseases Physician |
|---|---|---|---|---|
| Societal perspective on resistance<br><br>Bacterial resistance is generated primarily in healthcare settings<br><br>Litigation and unfavorable hospital surveys<br><br>Antibiotic resistant infections are more difficult to manage<br><br>Bacterial resistance has downstream effects<br><br>HAIs, usually due to MDR pathogens, are not the “cost of doing business” | Antimicrobial stewardship programs are financially self-supporting<br><br>Comprehensive programs have demonstrated a decrease in antimicrobial use (22% to 36%)with annual savings of $200,000 to $900,000<br><br>Additional financial advantages include improved safety, lower HAI rates, and shorter length-of-stay<br><br>Infrastructure and compensation to support a multidisciplinary program | Additional staffing may be necessary to devote dedicated Pharmacist to core team<br><br>Assessment of infectious diseases knowledge of Pharmacy staff to support program<br><br>Accountability measures need to be developed<br><br>Expectations on reductions in direct antibiotic purchases<br><br>Phase-in timeline of the AST program | Dedicate resources to support AST<br><br>Serve as a champion<br><br>Leads the culture change in how antibiotics are used by medical staff<br><br>Determine how antibiotic stewardship practices are translated into accreditation standards within the institution<br><br>Improved clinical outcomes can be used to generate a “best practices center” | Compensation (time out of office, revenue, stress on partners)<br><br>Working with Pharmacy (expertise), eg, hours for review<br><br>Role in ASP (authority)<br><br>Perceptions by medical staff; balancing private practice consults with informal review of antibiotic prescribing<br><br>Conflicts of interest (actually, there are none)<br><br>Serve as role models for antibiotic use |

# The Pharmacists Role in Antimicrobial Stewardship and Infection Prevention: A White Paper (ASHP)

- The American Society of Health-System Pharmacists (ASHP) believes that pharmacists have a responsibility to take prominent roles in antimicrobial stewardship programs and participate in the infection prevention and control programs of health systems
- This responsibility arises, in part, from pharmacists' understanding of and influence over antimicrobial use within the health system.
- ASHP believes that the pharmacist's ability to effectively participate in antimicrobial stewardship and infection prevention and control efforts can be realized through clinical endeavors focused on proper antimicrobial utilization and membership on multidisciplinary work groups and committees within the health system
- These efforts should contribute to the appropriate use of antimicrobials, ultimately resulting in successful therapeutic outcomes for patients with infectious diseases, and reduce the risk of infections for other patients and health care workers

ASHP Council on Pharmacy Practice. Am J Health-Syst Pharm. 2010;67:575-7